

NAVY NEPA PROGRAMS IN HAWAII

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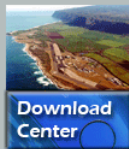
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Realistic Training with Sonar

Why, where, and how does the Navy use sonar in Hawaii?

Sonar is used on ranges operated or scheduled by the Pacific Missile Range Facility (PMRF) within the Hawaii Range Complex. The Hawaii Range Complex is the world's largest instrumented multi-environment range capable of supporting surface, subsurface, air, and space operations simultaneously. The range complex encompasses offshore, nearshore, and onshore areas located on or around the major islands of the Hawaiian Island chain. The air, sea, and undersea space of the range complex is ideally suited to train locally-based Navy units and support large, multi-force, multinational training exercises. Hawaii provides a central location for valuable training exercises which help strengthen ties with our many coalition partners.

Navy responses to new defense threats



Modern, quiet diesel submarines operating in shallow water have become a serious risk to the United States and its allied armed forces, and the U.S. Navy must be prepared to counter them. Mid-frequency active sonar is currently the only way to detect these modern submarines, and the only way to safeguard our men and women

in uniform is through realistic training and testing with this sonar technology. The effective use of sonar is a perishable skill that must be practiced frequently.

Why is the Navy using active vs. passive sonar

To successfully defend against submarine threats, our Sailors must train realistically with the latest technology, including next-generation passive and active sonars. Although the Navy is researching improvements in passive sonar, it does not provide the full capabilities of active sonar systems. The disadvantage of passive sonar is that it only provides a general bearing (direction) to the object, but not an accurate distance. Because it does not give a precise range, passive sonar cannot effectively be used for targeting enemy ships. Diesel submarines are designed to operate quietly and effectively in coastal and littoral waters, and are virtually undetectable with passive sonar, leaving active tactical sonar as the only viable means for locating and neutralizing them before they are able to strike. Active sonar is needed for precise location and targeting purposes because it gives both bearing and distance to the enemy it detects. In addition, passive sonar is less effective in areas where ambient (or background) noise levels are high, such as high traffic areas associated with commercial shipping. High background noise levels make it very difficult for passive sonar to detect quiet, diesel-electric submarines.

To better understand the science and uses of sound in the sea, please visit the Discovery of Sound in the Sea website from the University of Rhode Island: www.dosits.org.

Realistic Training Highlights

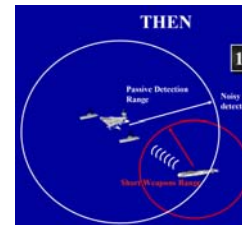
Quick Facts

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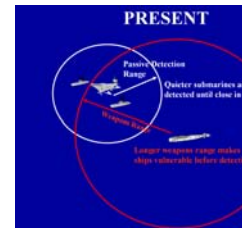
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Submarine threats in the



(click to view larger image.)

Submarine threats now..



(click to view larger image.)